(N03)

ENUMERATION AND ACCOUNT

OF SOME REMARKABLE NATURAL OBJECTS OF THE CABINET OF PROF. RAFINESQUE, IN PHILADELPHIA;

Being Animals, Shells, Plants, and Fossils, collected by him in North America, between 1816 *and* 1831.

PHILADELPHIA, NOVEMBER, 1831.

All the objects enumerated in this tract, have chiefly been discovered, collected, preserved, named, described and figured by myself during fifteen years travels and explorations in 15 of our States; they have been conveyed at great expense to this City, and will soon be sent to Europe for sale, unless disposed of in the United States. Many are unique specimens of great beauty and value, forming new genera or new species, as will be seen.

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I. FOSSIL REMAINS OF QUADRUPEDS.

1. MAZAMA SALINARIA, Raf. A fossil horn silicified outside, nearly intact inside, found in 1820 in clearing an old saline of the Indians on Knob creek in Kentucky near Knoblick, 9 feet under ground. Simple horn 5 inches long, $\frac{3}{4}$ at base, perfect, slightly curved, cylindrical conical, point obtuse; outside very smooth, redish brown; inside solid, white, minutely cellular. It appears to have belonged to an animal somewhat similar to the Antelopes, but with solid horns like *Cervus*, although not forked, which are the characters of my G. *Mazama* of 1817, several sp. of which exist as yet in Mexico and South America. It belongs to the latest geological age of fossil animals.

2. PANALLODON TUMULARIUM, Raf. A jaw-bone with the teeth, found in 1822 in the tumulus or altar of a very old Circus or Solar temple on Salt River in Kentucky. Jaw 6 inches long, white not petrified, all the teeth unequal, incisive smaller bifid obtuse, sinus acute, with two transverse curved lamina, molar teeth with very large roots, upper part smaller unequally bifid and trifid, lobulate, crenulate and substriate. Animal size of a small Deer or mazama, teeth very different from Deer, more like some Carnivorous Animals, but no Canine tooth. Perhaps akin to *Mazama*, the dentition of which is little known. Latest geological age, later than No. 1, period of the Mastodons.

3. TAURUS GIGAS, Raf. Found 1821 in a lick near Salt River, Kentucky. A beautiful and perfect tooth of a Bull, white, nearly fresh and with the enamel. Shape a parallelogram, nearly 3 inches long, $1\frac{1}{2}$ broad, root short lobular, upper part squared, bilobed above, front with 5 broad ribs, 2 alternate longer ending the two lobes above, back with a medial depression and increment, the 2 sides smooth, end slanting, bilobe lamellar. This large tooth weighing nearly 3 ounces, must have belonged to a very large Ox, even larger than the *Bos latifrons* (*Taurus latifrons*, Raf.) of the Authors. Age of the Mastodons.

4. APER. Molar tooth of a doubtful sp. of Hog, found with the above Bull, perfect with the enamel, upper surface white, oblong, one inch long, divided by sutures into polygons, each with a fulvous central spot, six unequal roots, one very short, and one opposite very long. Is it the *Aper pecari?*

II. FISHES.

5. TRINECTES SCABRA, Raf. Living Fish of the tribe *Pleuronectes*. It differs from *Achirus* by having only 3 fins, the dorsal, anal and caudal all free. Brownish, rough by ciliated scales, eyes to the right, dorsal and anal with 45 rays, beginning very near the head, caudal oblong with 15 rays. First noticed by Mr. Carr, comes in the Delaware and Schuylkill in the Spring with the Shads. Very small, 1 to 3 inches long only.

6. NEPHROSTEON, Raf. Very singular fossil bone of a fish from the diluvial region of Louisiana. It must have been the head plate of a

huge fish 20 feet long or more; but I know of none with similar shields. It is a fine perfect flat bone, yellowish white, solid, hard and heavy, rounded with a reniform base, 8 inches broad and 6½ long, half an inch thick, edge entire thick, surface above nearly smooth, with an Areolar depression round the centre, which has several unequal chinks. Lower surface entirely covered with vermicular anastomosed elevations, forming irregular pits and proeminences. Is it the bony shield of the head of *Megasaurus?* or some other huge fossil reptile?

7. Jaw bone of the *Amblodon grunniens* of my Ichthyology of the Ohio, with the large grinding teeth that serve to crush the Unios, his food.

III. CRUSTACEA.

8. *Trilobites Cephaleurya*, Raf. disc. 1817. Head very broad, granular before, eyes convex dotted, body with eleven segments, tail with seven segments. In the mountains Alleghany and Catskill, but very rare, in sandstone strata silicified.

9. *Trilobites Simia*, Raf. 1819. Head smooth, very large, resembling a monkey's face, 4 small furrows near the eyes, not dotted, body and tail with few segments. Found loose silicified in the Knobhills of Kentucky, in the bed of Salt River.

10. *Trilobites Granulata*, disc. 1825. Head quite granular, not so broad as the body, eyes very proeminent and granular, body and tail with 20 narrow proeminent segments. Fine large sp. over 4 inches long, silicified, from the Limestone of the Shenandoah Valley in Virginia.

11. ISOCTOMESA, Raf. N. G. disc. 1820, published 1821 in the Kentucky Gazette, since published also in 1824 by DeKay with the name of *Octomeris*. I had 2 sp. of it, one beautiful 8 inches long, from the Limestone strata on Licking River, Kentucky. The G. differs from Trilobites by head and tail equal, body with 8 equal segments.

12. BILOBITES, Raf. disc. 1819. Head bilobed oculated; 2 sp. *B. lunulata*, lunular head; 2 *B. lobata*, head with two obtuse lobes. Both from the Knobhills of Kentucky. I have many other fossil Crustacea, and have seen 15 sp. altogether, described in a Monograph in 1822.

IV. FOSSIL UNIVALVE SHELLS.

13. ERPILITES, Raf. N. G. or perhaps a S. G. of *Trochites*. Opening oval, subquadrangular by the end being nearly truncate, columella with a twisted fold and ending with an acute point. All the sp. from the limestone and sandstone of Ohio and Kentucky, where other Univalves are very rare. I have 7 sp. at least and shall here describe 5 of them. The name means creeping. Although these shells are marine, they appear to approximate very near to the *Pleurocera* and *Melania*, now living in the Rivers of the same region.

14. *Erpilites Multistriata*, Raf. 1818. Suboval 3 spires with many spiral ribs and minutely striated obliquely. Fine perfect specimen from sandstone of Knobhills, one and half inch long, with crystals inside.

15. *Erpilites Platenia*, Raf. 1820. Broad depressed, 3 spires smooth, the first very large with a broad biangular flat raised band, becoming a spiral angle in the other spires. Large sp. two inches broad, silicified, from the limestone.

16. *Erpilites Ohiensis*, Raf. 1818. Suboval, 5 spires smooth, each ending by a spiral angle on the upper edge. Limestone of Ohio state, one inch.

17. *Erpilites Carinata*, Raf. 1818. Oblong smooth, 5 spires carinated in the middle spirally. Near Lexington in limestone, small, half an inch, seldom petrified.

18. *Erpilites Stenotenia*, Raf. 1821. Oblong smooth, 4 or 5 spires with a narrow depressed spiral band. Limestone of Kentucky.

V. FLUVIATILE UNIVALVE SHELLS.

19. *Pleurocera Gonula*, Raf. 1818. Seven spires, the first with two or three small angles, the others with only one. River Kentucky. My G. *Pleurocera*, 1819, is perhaps

a S. G. of *Melania*, but the animal is different, with lateral feelers; the shell is always conical oblong with the opening oblong oblique acute at both ends, columella flexuose twisted.

20. *Pleurocera Acuta*, Raf. 1818. Shell elongate very acute, smooth, nine spires, the first angular in front. Lake Erie.

21. *Pleurocera Quadrosa*, Raf. 1816. Conical, smooth, six spires, the first with an obtuse circular angle, and a furrow below it, giving the opening a subquadrangular appearance. Small streams of West Kentucky, one inch long.

22. *Melania Rugosa*, Raf. Pyramidal acute, nine spires, rugose vertically, streams of Cumberland Mountains. I leave the name of *Melania* to the shells with opening obtuse at the end, or they may form the S. G. *Ambloxus*.

23. *Melania Viridis*, Raf. Suboval smooth, five spires, end obtuse, opening oblong. Fine shell, one inch, green, from Licking River.

VI. LAND UNIVALVE SHELLS.

24. APLODON, Raf. 1819. Differ from *Helix* by an ombilic and a callous tooth above it in the opening. Several sp. 1. *A. nodosum*, Raf. 1818. Subdepressed, rugose below concentrically, 3 nodose spires. In Kentucky.

25. STENOSTOMA, Raf. 1819. Differ from Helix, opening linear with lips, upper lip notched, lower carinated. 1. *St. convexa*, Raf. Nearly round, both sides convex, smooth, 5 spires. Kentucky.

26. TOXOSTOMA, Raf. 1819. Differ from the last, by no lower lip nor keel to the opening, which is curved. 1. T. *globularis*. Globular smooth, 5 spires. In Kentucky.

27. MESODON, Raf. 1819. Differ from Helix by lower lip with a tooth. 1. *M. maculatum*. Depressed, hardly striated, upper lip reflexed, tooth careniform, 5 spires. Fulvous with brown spots. The G. *Trophodon* differ from this by upper lip notched. The G. *Odomphium* by having an ombilic.

28. OMPHALINA, Raf. 1819. Differ from Helix by no lips, but an ombilic. Many sp. 1. *O. cuprea*. Suboval, 4 spires, smooth, brittle, diaphanous coppery, shining, opening very large. In Kentucky.

29. TRIODOPSIS, Raf. 1819. Differ Helix, opening with 3 teeth, 2 above, 1 below, an ombilic. 1. Tr. *lunula*. Depressed, mouth narrow with thick lips, ombilic lunulated. In Kentucky. Forms S. G. *menomphis*.

30. XOLOTREMA, Raf. 1819. Differ from the last by no ombilic, opening linear. 1. *X. clausa*. Subdepressed, 5 spires a little striated, opening almost hidden. I have many more land and fluviatile univalves, too many to enumerate here; but I add two beautiful Agatinas from the south.

31. *Agatina Variegata*, Raf. 1820. Six spires, smooth, yellowish, variegated with brown spots near the sutures, first spire with some narrow coloured strias concentric. Nearly two inches, from Louisiana.

32. *Agatina Fuscata*, Raf. 1822. Eight spires, smooth, reddish brown, with broad longitudinal black bands on the spires, of a lanceolate flexuose shape. Over two inches, from Texas. Both collected by Dr. Strong.

VII. FOSSIL BIVALVE SHELLS.

33. *Mytilus exotilus*, Raf. 1820. Oblong oboval, minutely striated, strias broader below, curved near the sides. Breadth two thirds of length, thickness 4-9. From the limestone near Boon creek, Kentucky, petrified, over 2 inches.

34. APLEUROTIS, Raf. 1819, and tract of October, 1831. N. G. very near *mytilus*, but winged and perforated. 1. *Apl. pectenoides*, Raf. Oboval, upper valve convex striated, wing well marked, lower valve flat, scarcely striated. Breadth 4-5 of the length, which is over 2 inches. 2. *Apl. pusilla*, Raf. Oblique oboval, flattened, minutely striated, wing small. Breadth $\frac{3}{4}$ of the length, which is less than one inch. Both from Knobhills of Kentucky.

36. OXISMA, Raf. 1819. N. G. near *Pinna*. Base truncate, end

gaping, equivalve, hinge lateral plicate on one valve, angular on the other. 1. *O. bifida,* Raf. Shell bifid by valves acute and gaping before, outside black and rough, sides straight, length 3-8 of the breadth, hardly one inch. Knobhills.

37. *Terebratulites Eriensis,* Raf. 1818. Base smooth, remainder with concentric wrinkles, large valve with a depression and sinus. Length 4-5, thickness 2-5 of the breadth. From the limestone of Lake Erie and Ohio, silicified blackish, about one inch.

38. STROPHOMENES, Raf. 1820. See tract of October. 1. Str. *levigata.* Very smooth, longer valve convex, lower valve concave, corners acute, not auriculate, contour arched and even. Length 4-5 of the breadth. Kentucky limestone. 2. *Str. flexilis.* Very thin, lower valve hardly concave with minute curved strias, upper valve convex with minute flexuose strias, corners acute subauriculate, length and breadth equal. Limestone of Ohio, 1 or 2 inches.

40. CURVULITES, Raf. 1819. Inequilateral, inequivalve, valves elongated, curved or crooked, larger valve broader, the smaller often angular. 1. *C. striata,* Raf. 1818. Cuneate curved, base narrow, end broad rounded, striated longitudinally, short alternate strias near the end. In the Kentucky limestone, 2½ inches.

41. ZONARITES, Raf. Tribe of Atremosia or imperforated Terebratulites. Shell substransversal equilateral, subinequivalve, both valves convex with thick concentric wrinkles, hinge linear, beaks very small. 1. *Z. atrata.* Nearly rounded, with large wrinkles and furrows between. Length 5-6 of the breadth, thickness nearly half. Perfect black shell silicified, nearly one inch, from the Knobhills, disc. in 1822.

42. *Zonarytes? Tesselata,* Raf. Rounded, tesselated by concentric and longitudinal wrinkles and furrows. Length 7-8 of the breadth. From the Knobhills, one inch broad, has only 1 valve incrusted in quartz, and with the hinge too imperfect to refer it decidedly to this Genus.

VIII. ENCRINITES.

This fossil tribe answers to the stellated animals, of which the Asterites are lacking with us, and the Echinites very rare; the true Encrinites differ from them by having a stem. We have a multitude of Genera and sp. My *Pentremites* of 1817, my *Tulosites* described last month, &c.

43. *Stylastrites.* Stem articulated cylindrical, segments radiate or 5 lobed in the centre. 1. *St. flexistria,* Raf. 1818. Segments equal, flat with flexuose strias around the central radiation. 2. *St. cliffordi.* Segments equal flat, radiation 5 lobed very large, centre with a round hole, border striated, both from Alabama as nearly all the following.

45. *Entrochites.* Differ from last, centre of segments with a round hole and no rays. 1. *E. bacillaria,* Raf. 1818. Segnents connected in the shape of a barrel, unequal, those in the middle thicker, each with a large hole and the border striated. 2. *E. concentrica.* Segments equal, flat thin with concentric strias around the central hole. 3. *E. annulata.* Segments equal, thick with a raised ring outside in the middle, hole large, no strias on the border.

48. MESTYRITES, Raf. Differ from Stylastrites by centre cruciate or 4 lobed. 1. *M. crenulata.* Segments equal thin, crenulate outside, border striate inside.

49. STERAULITES, Raf. Differ from Entrochites by segments solid, no hole in the centre. 1. *St. gonites,* Raf. Segments equal flat, outside with a circular angle in the middle, inside smooth. Alabama.

50. *Pentacrinites.* Differ from *Stylastrites* by stem pentagonal outside. 1. *P. quinquefida,* Raf. 1818. Segments quinquifid, convex below, above concave with a pentagonal hole and 5 ribs, alternate with the outward angles. Alabama.

51. PENTAGONITES, Raf. Differ from *Entrochites* by stem pentagonal. 1. *P. crenularis.* Segments equal flat crenulate outside, borders striate inside. Alabama.

52. FURCARITES, Raf. Head

with 8 unequal lobes or arms twice forked, articulated. Perhaps a N. G. of the tribe of Asterites. 1. *F. punctata*, Raf. Convex flattened, surface dotted, arms adpressed obtuse. From Lincoln county, Kentucky, silicified.

IX. POLYPITES or ERISMITES.

53. LATEPORA, Raf. 1818, perhaps the *Lithostrontion* of Parkinson. Basaltic angular tubes concamerated, stellate inside, with pores outside uniting the tubes. Tribe of Tubiporites. 1. *L. alba*. Tubes unequal 5 or 6 angles, concamerations as long as broad, pores in a row. 2. *L. basaltica*. Tubes unequal, 4 to 6 angles, concamerations short, pores scattered. Both from limestone of River Ohio, silicified, beautiful and very rare.

55. *Tubiporites*. S. G. *Gonopora*, Raf. Differs from Latepora, from want of pores. 1. *T. amorpha*. Mass amorphous, basaltic, tubes unequal nearly smooth, concamerations short. Sandstone of Knobhills.

56. *Favosites*. Differ from last by simple tubes without concamerations. 1. *F. convexa*, Raf. 1819. Mass rounded, conical depressed beneath, convex above, tubes subequal pentagone, striated inside and outside, mouth substellate. Sandstone of Knobhills, Silicified, fine, 3 inches and more.

57. DIPLORITES, Raf. Tubes angular, with round mouths or end, subconcamerated, no pores. 1. *D. pulchra*. Mass subamorphous, upper surface undulate, mouths even unequal, large ones in rows surrounded by many small ones, not stellate cellular, tubes hardly striated. Sandstone of Knobhills, silicified, fine, 4 inches long.

58. *Flustrites Rubra*, Raf. Amorphous, lobulate, elongate, flabellate and undate, surface red with regular rows of raised cells, having ribs between the rows at the base. Beautiful specimen 4 inches long, from the Knobhills, silicified.

59. DIPLENITES, Raf. 1819. Large cells and minute pores mixt together; thus uniting the characters Cellepora and Millepora. 1. *D. lobulata*. Irregular depressed, lobulate, both sides convex with irregular and unequal cells, and several remote unequal pores. Sandstone of Knobhills. Several other species.

60. ORIMITES, Raf. Large flat cells or pits on the surface, not raised as in Cellepora. 1. *O. cava*. Elongated irregular, with cavities inside, outside with many oblong unequal cells. Sandstone of Knobhills.

61. *Milleporites Verrucosa*, Raf. Compressed, subramose flexuose, covered all over with warts nearly smooth, and many minute pores between them. Limestone of Blue licks in Kentucky, 2 to 6 inches.

62. FISTULIPORA, Raf. Differ from *Millepora* by being tubular. 1. *F. teres*. Cylindrical, nearly simple, smooth, pores round, nearly equal. Limestone of Kentucky.

63. TORULIPORA, Raf. Differ from *Millepora* by a moniliform shape and appearance of being free, not fixed. 1. *T. monilia*. Free, elongate, curved, collar like or torulose, segments solid oblong unequal, pores crowded and equal, nearly oval and in transverse rows. Sandstone of Knobhills.

X. ALCYONITES.

This last and lowest tribe of fossil Animals is very prolific in the West. It is the link between Animals, Plants and Minerals: and it is as yet doubtful to which series the Sponges, Septaria and Geodes belong. They require a new study and revision. I shall give here many N. G. with a single sp. or type except the *Cyclorites* of the Supplement.

64. BOLACTITES, Raf. disc. 1819. Outside globular with pores nearly invisible. Inside full of fibres radiating from the centre to the circumference, fibres minute connected by fistular concamerations. Very singular G. when not broken resembles the *Bolites* or mineral Balls, but inside nearly like a *Tubipora*. 1. B. *Spherica*, Raf. Globular, a little rough. In the Knobhills of Kentucky, petrified, diameter 1 to 2 inches. Almost similar to the living *Tethya* of Sicily, which has, however, lamellar fibres, and no concamerations.

65. SACONITES, Raf. 1818. Oblong bag suspended in the cavity of stones by the mouth, with a central axis and a little radiate inside. 1. S. *Granularis*, R. Irregular oblong obtuse, bag granular outside. Near Lexington, Kentucky, in a thin sandstone between limestone.

66. LOBOSTOMA, Raf. 1818. Conical fixed, with a large mouth with unequal lobes. 1 L. *Striata*. Flat beneath, sides with une-

qual flexuose strias above depressed, mouth with many lobes. Limestone Kentucky, silicified or calcedonized. Akin to *Ascidia* and *Actinia*.

67. *Megastoma pusilla*, Raf. Oboval or elliptical, striated, mouth nearly entire. Kentucky Limestone. A large sp. of this G. *M. cedra*, elliptical rugose outside is still living in the Sicilian Sea; very near the last G.

68. *Septaria*. Mass with many cavities and septas. Some are evidently organic beings, but some true minerals! Yet it is hard to decide. The *S. testudinaria*, resembling a petrified turtle, is the most singular.

69. GRANULITES, Raf. Branched and anastomosed, outside granular, inside subfibrous, but solid. Almost a spongite or petrified sponge, but no cavities inside and outside. 1. *Gr. spongila*. Branches cylindrical, irregularly ramose and confluent, outside rough subgranular. Sandstone of Knobhills, 2 to 4 inches, fulvous, disc. 1821.

70. TRACTINITES, Raf. 1818. Fixed, complanate, lobate, with flexuose wrinkles in a tesselate form. 1. *Tr. inequalis*. Lobes very unequal, undulate, surface rough with some cavities. In Limestone, Kentucky. Silicified, 2 to 4 inches. not two alike.

71. BIFIDITES, Raf. 1818. Fixed, elongate, ending in a bifid striated appendage, surface granular. 1. *B Scabra*. Nearly terete, irregular, rough, granulated and wrinkled, appendages unequal, undulate obtuse, striated like a shell outside. Sandstone of Knobhills.

72. DERMORITES, Raf. 1818. Solid mass covered by a skin or tegument full of wrinkles. 1. *D. hemispherica*, flat below, convex above, wrinkles flexuose forming flat oblong tubercles. Falls of Ohio in limestone, silicified 2 or 3 inches.

73. SOMARITES, Raf. Solid mass without skin, surface covered with irregular wrinkles. 1. *S. curvites*. Depressed flat irregular, wrinkles curved unequal often crossing each other obliquely Knobhills sandstone. It is hard to say if this was an animal or a plant! disc. 1818.

74. GEODITES. Free mass uneven outside, inside hollow, often filled with crystals. It will be hard to decide if this G. was an animal or a mere mineral. Many kinds or sp. in the Knobhills streams. 1. *G. levigata*. Globular or elliptical, nearly smooth outside, cavity large, irregular, of many colours and sizes, quartzose, silicified or calcedonized. Observed 1819.

75. CAVULITES, Raf. disc. 1820. Solid free mass, outside with irregular cavities, often small cavities inside. *C. ambloides*. Subglobose not lobed, cavities small unequal all unlike, obtuse often lobulate, few inside. Knobhills. silicified. 2 inches. Perhaps a G. of Spongite or petrified sponge, but fibres obliterated.

XI. FOSSIL PLANTS.

I have seen or possess many, but mostly imperfect. They are

1. Lignites—several.
2. Filicites—two kinds.
3. Rytoma, N. G. 2 Sp.
4. Tesselites, N. G.
5. Porinnites, N. G. 2 Sp.
6. Trispinites, N. G.
7. Cladorites, N. G. 5 Sp.

SUPPLEMENTS.

1. *Prodromus of a Monograph of the Cyclorites.*

A new Genus of fossils from the Knob-hills, &c. of Kentucky, containing 33 species, and the Fibrillites, 2 species. By C. S. Rafinesque, 1824.

In 1821, I wrote the Monograph of the Univalve Shells of Ohio and Kentucky, which I sent to Brussels for publication: it reached that city when Mr. Bory had returned to Paris, and I have never heard when it was printed, nor was it sent to me like the Monogragh of the Bivalve. I propose to print it again in America; but it is too long for this tract. The same fate has happened to many of my labours sent to Europe for publication when I was in Kentucky, such as

1. A Monograph of the Western Terebratulites.
2. Ditto of the Trilobites of Virginia and Kentucky.
3. Essay on the Geology of Kentucky.
4. Prodromus of a Monograph of the Cyclorites.

This last was sent in 1824, to Brongniart and Ferrusac; but I apprehend was lost, as I have never heard of its reception. As it is not too long, I propose to add it to this tract. It is nearly in the same form as the Monograph of the *Turbinolites*, by Clifford and myself, published in 1820.

Genus CYCLORITES. Raf. 1819.

Tribe of Alcyonites. Body fixed or free, polymorphous solid, covered with one or several openings or mouths, surrounded by concentric or rugose circles.

This Genus differs from *Alcyonites*, which has no circles round the openings, from *Fibrillites* Raf. which has the body fibrose or lamellar inside, and from *Somarites* Raf. which has transversal wrinkles not concentric

It offers five different models of existence and organization, which must constitute as many sub-genera, or rather genera in my opinion

The Genus was discovered by me in 1818, and published in 1819 in Blainville's Journal.

I have already ascertained thirty-three species of them, which are almost all found in the Knob-hills of Kentucky, a spur of the Cumberland or Wasioto mountains, extending from east to west nearly 360 miles north of the river Cumberland, while the Cumberland mountains divide the valleys of the Cumberland and Tennessee rivers. The Knob-hills are secondary, cut up in ridges and knobs, or conical hills from 200 to 500 feet high above the Limestone plains of Kentucky, chiefly formed of sandstone and slate in horizontal strata. The sandstone is the highest above the slate and limestone. It contains these *Cylorites*, and a multitude

of other fossils, in nodules inside or debris at the foot of the hills.

These Cyclorites offer every form and colour, white, yellow, red, brown, &c. : they are always silicified like all the fossils of that region, and some times agatized or calcedonized, becoming almost precious stones, from the size of a hazlenut to that of an orange. Some kinds are very scarce and very valuable, even as opaque gems. I have them now all before me, except those of Clifford's Museum, and I offer them also for sale.

1 S. G. CLADOCYCLITES.

Body fixed, branched, concentric, circles scattered.

1 Sp. *C. alcicornis.* Branches unequal, smooth, compressed, angular, many circles, many faint flexuose wrinkles.—Brown two to four inches.

2 Sp. *C. contorta.* Branches unequal, twisted, different, obtuse, many circles, many flexulate wrinkles.—Var. 1. *fusca*; 2. *alba*; 3. *scabra.*

3 Sp. *C. ramosa.* Branches irregular, short, lobulate, obtuse, few circles, nearly regular, few broad wrinkles.—10 varieties of colour and shapes.

4 Sp. *C. palmata.* Branches broad, palmate, lobulate, rough, circles small and few, few wrinkles, flexuose and close.—From Clifford's Museum.

2 S. G. CANCELLITES.

Body free, ramose, anastomosed, or branches confluent.

5 Sp. *C. spongioides.* Cavernose diformed, rugose transversally; circles irregular, unequal, and few, formed by one or two flexuose wrinkles.—Var. *fusoata.*

6 Sp. *C. cavernosa.* Cavernose, diformed, lobed, rough; circles unequal scattered, many round wrinkles.

7 Sp. *C. defluens.* Compressed amorphous, fenestrated, lobed, smooth, circles unequal, flexuolate.

3. S. G. PERICYCLITES, or true *Cyclorites.*

Body free, single, many circles.

8 Sp. *granularis.* Diformed, lobed, cavernose, granular; many circles, confluent, unequal, regular; many wrinkles, granular, punctiform, concave.—Yellowish four inches.

9 Sp. *C. calcedonica.* Hardly lobed, smooth; many confluent circles, with three to five wrinkles; center convex.—Fine species calcedonized.

10 Sp. *C. pusilla.* Lobed, diformed, smooth; few circles regular, with two or three unequal wrinkles.—Small white.

11 Sp. *C mammosa.* Lobulate, diformed; smooth circles, prominent, convex, unequal, but rounded; two or three wrinkles.—Variable species, several colours.

12 Sp. *C. depressa.* Oblong, depressed, smooth; circles confluent, with numerous wrinkles.

13 Sp. *C. amorpha.* Amorphous smooth; few circles with few wrinkles, thick, broad, and flexuose. Many varieties.

14 Sp *C. Convexa.* Lobed with cavities. depressed, but one side convex; circles one or two on each side, with many rough flexuose wrinkles.

15 Sp. *C. lobula.* Depressed with three unequal lobes smooth; few circles regular two or three wrinkles.—Fulvous, three inches.

16 Sp. *C. Media.* Amorphous depressed smooth; circles confluent, one larger, many flexuose irregular wrinkles.

17 Sp. *C. glomerata.* Amorphous knobby, lobed, conglomerate; circles irregular, wrinkles flexuose.—Variable.

18 Sp. *C. elliptica.* Depressed, elliptic, smooth; circles elliptic, unequal, with few wrinkles.

19 Sp. *C. corticalis.* Rounded, knobby; circles rounded unequal, wrinkles corticated, center depressed, discolor, naked.—Fulvous white one or two inches.

20 Sp. *C. rubra.* Amorphous rounded smooth; circles unequal, two to four broad, flat wrinkles.—Red, one inch.

21 Sp. *C. dimidiata* —Depressed, ellipsoid, knobby, two or three confluent circles, one larger, few wrinkles, center mamillar.—White calcedonized.

22 Sp. *C. duplicata.* Depressed, amorphous, knobby; circles containing smaller circles, external circle with one or two wrinkles, internal with three or four.

4 S. G MONOCYCLITES.

Body free, simple, with only one concentric circle.

23 Sp. *C. turbinata.* Turbinate smooth, circle terminal, regular, with few wrinkles. —Fulvous one and a half inch.

24 Sp. *C. angulata* Depressed, conchoidal, angular, somewhat rugose, circle small, round, with two wrinkles.—Clifford's Museum.—Different from the others by not being silicified but calcarised, blnish, from the limestone region.

25 Sp. *C. nigra.* Rounded, depressed, rugose; circle large, many thick wrinkles, center concave.—Greyish black, two inches. Very rare.

26 Sp. *C. crenata.* Depressed, ellipsoidal, margin crenate or lobular; circle large all over the surface, wrinkles crenulate, center mamillar.—White half an inch. Very rare.

27 Sp *C. moneta.* Depressed, flat, rounded smooth; circles regular, many wrinkles, center convex—half an inch, very rare.

5 S. G. CYCLEPITES.

Body fixed, parasite on other fossils, flattened, several circles.

28 Sp. *C. turbinolia.* Parasite, crustaceous, thin, smooth, flattened, irregular, several circles unequal, with many flexuose wrinkles.—On the Turbinolites. Very rare.

29 Sp. *C. effusa.* Parasite effuse, thin, smooth, flattened, margin lobulate, many circles unequal, with few wrinkles unequal and irregular.—On the *Orthoceratites*, small, rare.

30 Sp. *C. paradoxa.* Parasite, unequal, rough, flattened, circles small, rounded with two or three wrinkles.—On other *Cyclorites!* chiefly *spongiola*, and cavernosa, rare.

Thus far my prodromus of 1824 I have ascertained some other species, but as they are not now under my eye, I postpone their enumeration except the 3 following, which are

now before me, all of the *S. G. Pericyclites.*

31. Sp. *Cyclorites proeminens.*

Rounded amorphous smooth, several circles raised proeminent scattered, wrinkles 1 to 3 thick large convex. Yellowish 1 inch.

32. Sp. *Cyclorites dianisa*, or *N. G. Dianisites elliptica*, elliptical flattened, margin lobulate, surface uneven, one large circle above with one elliptic wrinkle, containing two unequal circles, with few prominent knobby wrinkles, centre convex, whitish, two inches. Intermediary between *C duplicata* and *Crenata*. It may form a S. G with *C. dupticata* and the following: the *Dianisites* distinguished by *body free depressed, having above* a *single circle containing 2 or more smaller* circles *inside.*

33. Sp. *Cyclorites striata* or *Dianisites striata.*

Rounded, convex and rugose below, flat or concave above with a large circle occupying the whole surface, the margin broad, flat, striated, and rugose across, two unequal internal circles with many minute wrinkles centre concave —Fulvous 1½ inch, very rare

Remarks. The above fine and prolific Genus, must be found elsewhere also. I suspect that some oculated calcedonies of Siberia belong to it. Patrin long ago stated that they might be organic remains. They must always be easily distinguished from the mamillar calcedonies which appear real minerals and semi globular crystals by their external organised appearance, although the inside may be changed into pure calcedony Many of the above species are probably mere indurated parts; the mouths or opening are akin to some Sp. of *Alcyonites* and *Ascidites*, which however have no concentric circles. The *Alcyonium* tribe is well known to be next to sponges, and the lowest in the scale of sea animals.

To dispel the least objection of my theory, another beautiful new Genus, my *fibrillites* will be described, which is outside exactly like *cyclorites*, but has a fibrous organised structure. I have now before me two species of it, one of which is half calcedonised and internal structure half obliterated, which may lead to a belief that the *cyclorites* might also have had an organised interior which has been quite obliterated by lapidification.

G. FIBRILLITES disc. 1820.

Body free, solid or cavernous, interior with minute fistular fibres, ending in very minute pores on the outside surface, which is covered with concentric circles as in Cyclorites.

Fine marine Genus now fossil, very near to the G. *Tethya* of Donati, which has similar fibres inside; and to another N. G. of Kentuckey fossils, the *Bolactites*, No. 64. They are all from the same geological region.

1. Sp. *Fibrillites cavernosa* Elliptical, cavernose fibres curved radiating, surface with many large concentric circles unequal confluent rounded, several thick and irregular wrinkles, centre concave or convex—yellowish, four inches, beautiful specimen, unique and very valuable.

2. Sp. *Fibrillites amorpha.* Amorphous solid, obliterated except in the centre, and the visible pores of the surface, which is knobby uneven; concentric circles raised small, 1 or 2 wrinkles thick, irregular, centre excavated. Smaller, redish, pale where quite calcedonised.

This Tract contains 117 New Genera or Species.

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